STATE OF SOUTH CAROLINA
BEFORE THE
PUBLIC SERVICE COMMISSION

Docket No. 2001-411-E

In Re: Application of Greenville County for Certificate of Environmental Compatibility and Public Convenience and Necessity

Rebuttal Testimony of Thomas W. Devine

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Thomas W. Devine, P.E., QEP. My business address is 880 South Pleasantburg Drive, Suite 4D, Greenville, South Carolina 29607.

Q. WHAT IS YOUR PROFESSION AND BY WHOM ARE YOU EMPLOYED?

A. I am a registered professional engineer in the State of Massachusetts. I am also a Qualified Environmental Professional, which is an international professional registration. I am a principal in Kestrel Management Services, LLC, a professional consulting practice focusing on environmentally driven management issues.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL EXPERIENCE.

A. I earned a B.S. in Civil Engineering from Northeastern University in 1964, and an M.S. in Environmental Engineering from Harvard, Tufts and Northeastern University in 1972. I served in various management positions

at the United States Environmental Protection Agency, including as Chief of the Air Branch for EPA Region I, Director of the Air and Waste Management Division for EPA Region IV, and Director of the Office of Program Management and Technology, Office of Solid Waste and Emergency Response at EPA headquarters. I have been a consultant in private practice since 1988. A copy of my resume is attached as an exhibit.

Q. ON WHOSE BEHALF ARE YOU APPEARING?

A. I am appearing on behalf of Greenville County Power, LLC.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide support for the approval of GCP's application to the Public Service Commission for a Certificate of Environmental Compatibility and Public Convenience and Necessity to Construct a generating plant for the production of electric power in Greenville County.

Q. WHAT DOCUMENTS HAVE YOU REVIEWED IN PREPARATION FOR YOUR TESTIMONY?

A. (1) Greenville County Power's application to the PSC.

(2) Exhibit B, Project Description in support of that application.

(3) PSD Permit Application for the Greenville Power Project.

- Related Class I Air Quality Analysis
- Related Class II Air Quality Analysis

(4) Direct testimony of Chip Olsen, V.P. Development, Cogentrix

(5) Direct Testimony of Richard C. Neff, PE, Manager, Environmental Affairs, Cogentrix.

(6) Cogentrix Proposed Electric Generating Facility Description.

(7) Prefiled Testimony of Kevin Clark, DHEC Bureau of Air Quality.

(8) Prefiled Testimony of Marion Sadler, DHEC Bureau of Water.

Q. ARE YOU FAMILIAR WITH THE NO_x EMISSIONS CONTROLS PROPOSED FOR THE GREENVILLE COUNTY POWER PLANT?

A. Yes. Greenville County Power plans to use GE turbines which operate most of the time on natural gas. Greenville County Power is allowed to burn fuel oil for no more than 30 days per year, and only from December 15 to February 15, which is not during the ozone season. The turbines will use dry low NO_x technology and selective catalytic reduction (SCR) when firing natural gas, and wet injection and SCR when firing fuel oil. This combination of technologies will actually result in emissions, which are better than "Best Available Control Technology."

Q. WHY ARE THESE CONTROLS REQUIRED?

A. South Carolina is currently in attainment with all of the National Ambient Air Quality Standards (NAAQS). As such, South Carolina has a maintenance plan that dates back to the 1970s. Under this plan, any new source must comply with "Prevention of Significant Deterioration" regulations for any NAAQS pollutants which it will emit above a certain threshold. For NO_x , Prevention of Significant Deterioration regulations

require the use of Best Available Control Technology, which Greenville County Power will meet or exceed.

Q. DOES MEETING BEST AVAILABLE CONTROL TECHNOLOGY ALLOW GREENVILLE COUNTY POWER TO COMPLY WITH CURRENT REGULATIONS?

A. Yes. Under current regulations, a facility that demonstrates that it meets applicable State Implementation Plan (SIP) requirements; does not exceed the applicable national ambient air quality standards (NAAQS); for Prevention of Significant Deterioration (PSD) installs Best Available Control Technology for criteria pollutants; does not exceed applicable PSD air quality growth increments for the immediate class II area and the more distant class I areas including related air quality related valued (AQRV's); and has minimal impact on visibility in Class I, areas will be issued a permit.

Q. WHAT, THEN, IS THE QUESTION ABOUT NO_x EMISSIONS?

A. The question is about what may happen in the future. That question exists, incidentally, with regard to any emission source already in the upstate or that may wish to build or expand in the upstate in the foreseeable future. South Carolina has two related future NO_x issues. The first is compliance with a regulation that has been approved by EPA and is expected to be effective next summer. In response to EPA requirements, South Carolina recently promulgated Regulation 61-62.99, which imposes NO_x reduction

requirements on electric generating units, large industrial boilers, and cement kilns. As a result of Regulation 61-62.99, older sources with high NO_x emissions will be required to make significant reductions, although in many cases, they still will not meet the technology standard that Greenville County Power will meet. Regulation 61-62.99, when it goes into effect in 2002, includes allowances for new growth in NO_x emissions. The second issue relates to possible future non-attainment in several counties in South Carolina, including the Upstate counties along the I-85 corridor.

Q. WHAT DO YOU MEAN BY POSSIBLE FUTURE NON-ATTAINMENT?

A. The United States Environmental Protection Agency classifies areas of the country as either "in attainment" or "in non-attainment" for various pollutants, including ozone. All of South Carolina is currently in attainment with all National Ambient Air Quality Standards, including the standard for ozone. However, EPA has proposed a new 8-hour standard for ozone. The proposed standard has been challenged in court, and a resolution of the court challenge is expected next year.

Q. IF THE COURT UPHOLDS THE STANDARD, WHEN WILL NON-ATTAINMENT DESIGNATIONS BE MADE?

A. EPA will likely make non-attainment designations in 2003, 2004, or 2005. Right now, EPA is in the process of revising its guidance for implementing

the ozone standard and expects to propose a regulation in the summer of 2002. Sometime after that regulation is finalized, a process that typically takes at least one and frequently two years, EPA will make a formal designation of areas that are in non-attainment.

Q. WILL THE UPSTATE OF SOUTH CAROLINA BE IN NON-ATTAINMENT FOR OZONE UNDER THE PROPOSED NEW 8-HOUR STANDARD?

A. If the proposed standard went into effect right now, the Upstate would be in non-attainment. It is harder to predict whether the Upstate will be in non-attainment if and when the 8-hour standard is actually in place. We have not yet seen what emissions reductions will be achieved through implementation of Regulation 61-62.99; federal standards for mobile diesel and gasoline engines; and proposed clean fuels. EPA has said publicly that it expects regulations similar to the one South Carolina enacted this summer, combined with ongoing programs, to enable states to meet the 8-hour standard. However, it is possible that EPA is wrong and that further emissions reductions will be required to meet the new standard.

Q. WHAT HAPPENS IF THE UPSTATE IS DESIGNATED NON-ATTAINMENT?

A. Once an area is designated as non-attainment, EPA requires the state to revise its State Implementation Plan (SIP) to demonstrate how the state will get that area back into attainment. This is known as a NO_x SIP call, and

it is the same mechanism that prompted the Regulation (61-62.99) that is expected to become effective next summer. A state typically is allowed 18 months to two years to prepare a SIP revision and submit it to EPA for approval. After EPA approves the SIP revision, the State has three years to implement it.

Q. SO IF THE UPSTATE IS DETERMINED TO BE IN NON-ATTAINMENT, HOW LONG WILL IT TAKE BEFORE CONTROLS ARE REQUIRED?

A. Based on my experience, about it will take about 3 years to develop and have a SIP revision approved containing an implementation plan phased over two to three years.

Q. WHAT KINDS OF CONTROLS MIGHT BE EXPECTED?

A. That would depend on the severity of non-attainment. Any new stationary sources would be required to install lowest achievable emission rate (LAER) technology and obtain offsets for an increase in emissions. Existing sources could be assigned a reduction target for volatile organics (VOC's) and NOx. Mobile sources could trigger a requirement for designer fuels and inspection and maintenance (I&M).

Q. WHAT ABOUT NOT ALLOWING NEW CONSTRUCTION OF NO_x SOURCES AT ALL?

A. Although that is theoretically possible, it is highly unlikely because it is so politically difficult. What is more likely is that emissions offsets for new

NO_x sources will be required. That is what has happened in cities like Houston, Atlanta, and Los Angeles, which have been in non-attainment for a number of years.

Q. ARE YOU AWARE OF OTHER PROPOSALS TO DEAL WITH POTENTIAL NON-ATTAINMENT?

A. Yes. Market based trading for SO2 and VOC emissions has been operating for a number of years. Many states have been operating emission banking programs for a number of years. The commodities market for NOx is newer, but functioning. There has been a NOx budget program for 12 states in the Northeast since 1999. Congress is currently debating a multi-pollutant bill, which would establish a market-based cap and trade program similar to the trading program for acid rain. A trading program was also set up under Regulation 61-62.99. Generally speaking, these programs establish a maximum level of emissions for an area, assign allocations to specific sources and set up a market in which industries can buy and sell emissions "credits." A company with older, high-emitting units might continue to run those units, or it might purchase control equipment, reduce its emissions, and sell the credits to another company. A new industry locating in the area would be able to purchase credits and build its facility without increasing the overall level of emissions. As we have seen in the acid rain area, a market-based trading program tends to drive new technology, because the ability to sell credits makes installation of controls

more economically advantageous.

Q. ARE YOU FAMILIAR WITH THE MODELING EFFORT CURRENTLY UNDERWAY AT DHEC?

A. At this point, no. I have made an inquiry to DHEC and its representatives have agreed to discuss the matter with me when they are ready.

Q. WHAT ABOUT PARTICULATE MATTER EMISSIONS?

A. The timing for any particulate matter revisions is even farther into the future than ozone. The current regulatory effort is to establish a standard for PM2.5, or very fine particulates. There is an ongoing court challenge, and EPA is still assembling support data to defend its proposed standard. The first non-attainment designations are not expected until 2004 or 2005, which means the standard will not be implemented until about 2010. Unlike ozone, implementation of the particulate matter standard is presently targeted to focus on specific contributing sources in non-attainment areas.

Q. WHAT EFFECT SHOULD POSSIBLE FUTURE CHANGES IN THE REGULATIONS HAVE ON THIS PERMIT?

A. Based on my experience, none. I have been involved in Clean Air Act implementation since the Act first passed in 1970, and the one constant in the Act has been change. In issuing permits, agencies must apply the law as it exists. That is a reasonable requirement, because although we know things will change in the future, we have been less than successful at predicting how that change will occur. Present law provides for the

issuance of air permits to facilities that install the best available technology and meet anti-degradation PSD requirements. The Greenville County Power facility goes beyond that.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Thomas Devine P.E.*, QEP
Senior Consultant and Principal

EXPERIENCE

GENERAL: 35+ years of multi-media experience in the environmental field

20 years with regulatory responsibility for permits, standards, enforcement and planning related management responsibility for professional/technical staffs up to 225 employees.

Includes: Hazardous waste, solid waste, Superfund, air, pesticides, toxics, radiation, noise, surface water, ground water, and drinking water

1999-date **Kestrel Management Services, LLC, Principal**
Considers the broad range of interrelated environmental requirements and their impact on production systems, product design and marketing in developing recommendations for permits, compliance and environmental management systems. Brings multi-media experience (CAA, RCRA, CERCLA, CWA, FIFRA & TSCA), a knowledge of health and safety requirements, and broad exposure to the realities of manufacturing processes as actually applied to bear in evaluating options to address defined needs.

Also serves as an expert in administrative, civil and criminal actions in areas of expertise.

1988-1999 **RMT, Vice President , Corporate Regulatory Affairs**
Worked with clients to develop defensible (regulation, statute, policy), cost effective, strategic solutions to problems considering issues related to competitiveness and industry's production needs. This included securing permits and solving compliance-related issues associated with the CAA and RCRA, and the full spectrum of issues associated with Superfund and Corrective Action. Provides multi-media issue expertise as part of environmental integration into industry's strategic and master planning process.

1986-1988 **Director, Office of Program Management and Technology, Office of Solid Waste and Emergency Response, EPA,** Washington, D.C.

Consulted with OMB, the U.S. Congress and other federal agencies on developing policy and regulations.

Developed and managed, in conjunction with EPA ORD, the SITE Program and its related components.

Responsible for review of developing regulations that impacted on, or were impacted by, hazardous waste related statutes; information management; a national training and technology transfer program; and technology development and review related to hazardous waste management.

1984-1986 **Director, Waste Management Division, Region 4 EPA,** Atlanta, Georgia

1978-1984 **Director, Air and Waste Management Division, Region 4 EPA,** Atlanta, Georgia

Managed the air, RCRA, solid waste, Superfund, radiation, pesticides and toxics programs in the eight southeastern states. Responsible for permit issuance and compliance programs; implementation of emergency response, removal and remedial actions under Superfund and The Clean Water Act, and involvement with the political and regulatory process at the state and federal level, including testimony before state legislatures and the US Congress.

1974-1978 **Chief, Air Branch, Air and Hazardous Waste Division, Region 1 EPA,** Boston, Massachusetts

1971-1974 **Chief, Technical Operations Section, Enforcement Branch, Region 1 EPA,** Boston, Massachusetts

1968-1971 **Chief, Industrial Waste Section, Surveillance and Analysis Division, Region 1 FWPCA,** Boston, Massachusetts

1964-1968 **Engineering positions** with the International Joint Commission, Camp, Dresser and McKee, and the Commonwealth of Massachusetts

1964-1978 Experience during this time encompassed various aspects of The Clean Water Act, including industrial waste evaluation; the Clean Air Act, including control strategy development (SIP), modeling and permitting; emergency response, including serving as an on-scene commander; and fairly extensive environmental planning and regulatory responsibilities.

HIGHLIGHTS

Hazardous Waste:

- Development of regulations/guidance for implementation of RCRA/Superfund statutory mandates.

- Development of training and technology transfer programs.
- Promote, assist and review new technology development in the hazardous waste field.
- National Program budget formulation.
- Served as expert witness in civil and criminal actions.
- Operating and strategic plan development and implementation for RCRA and Superfund in Region IV
- Management of integrated RCRA permit development staff including permit review and negotiation.
- Management of compliance inspection program. Responsible for subsequent enforcement decisions.
- Responsible for all activities (PA/SI, HRS, RI/FS, RD/RA) in the Superfund process for both removal and remedial.
- Management of the emergency response program.
- Implemented and participated in community relations programs, public meetings and formal hearings.

Air & Water:

- Use and interpretation of results from remote sensing systems, including airborne platforms.
- Selection, operation and interpretation of air and water quality models.
- Air pollution control systems evaluation.
- Developed air quality monitoring instrumentation.
- Designed and operated comprehensive air quality surveys, interpreting results and preparing reports.
- Served as an Agency expert witness for civil actions.
- Carried out comprehensive compliance inspections and developed appropriate enforcement cases.
- Evaluation of water and air permit conditions and their applicability.

- Management of Air Permit Staff and Comprehensive Planning Program.
- Conduct of industrial waste surveys, data analyses and recommendation for corrective action.
- Functioned as an On-Scene Commander.
- Field activities associated with the conduct of comprehensive water quality surveys. data analyses, remedial action recommendations and report preparation.
- Development of Water Quality Standards criteria and statewide classification for surface waters in the Commonwealth of Massachusetts.
- Assessment of water supply needs and alternatives analyses.

General:

- Project management throughout career.
- Extensive public speaking experience in varied forums and media dealing with general subject matter to complex technical issues.
- Facilitator in a variety of forums encompassing diverse subjects.
- Interaction with federal, state and local elected officials, and related committees including formal testimony.
- Experience as a negotiator.
- Served as arbitrator in environmental issue related arbitration.
- Management responsibility for successful delegation and authorization programs in the northeast and southeast.
- Worked in all regulated environmental media, with many state regulatory programs throughout the United States, and with industry, regulated utilities, and municipal government.

EDUCATION / TRAINING

B.S., Civil Engineering, Northeastern University, 1964
M.S., Environmental Engineering, Harvard, Tufts and Northeastern University, 1972

REGISTRATION

Registered Professional Engineer
Qualified Environmental Professional
Certificate – EMS Lead auditor Course (ANSI/RAB Approved)
#SGS/EMS4/01098/GEN1/US/856

PROFESSIONAL AFFILIATIONS:

Member American Society of Civil Engineers
Member Air and Waste Management Association
Member Senior Executive Association
Member Tau Beta Pi National Engineering Honor Society
Member Chi Epsilon National Civil Engineering Honor Society

EXPERT WITNESS AND RELATED OVER THE PAST 10 YEARS:

1991	Howard & Howard, Attorneys, Bloomfield, Michigan (Auburn Hills Incinerator) Strategy and fact development -- Civil RCRA
1992	Ogletree, Deakins, Nash, Smoak, & Stewart, Raleigh, N.C. (Laidlaw Environmental, South Carolina) Strategy and fact development -- RCRA Civil
1993	Corporate Counsel, Crown Cork & Seal, Philadelphia, PA (Crown Cork & Seal, Cheraw, South Carolina) Fact development, deposition and testimony -- remediation insurance cost recovery
1994	Allen, Dell, Frank & Trinkle, Tallahassee, Florida (Florida Steel) Strategy and fact development -- State Superfund
1994	Corporate Counsel, Willamette Industry, Inc., Portland, Oregon (Willamette Industries Inc., Bennettsville, S.C.) Strategy and fact development -- CAA Civil

1994	Patton, Boggs, LLP, Washington, D.C. (United Technologies) Strategy, fact development, and deposition -- CERCLA
1995	Wegman, Hessler, Vanderburg & O'Toole, Cleveland, Ohio (USA vs. Laskin) Fact development and deposition -- cost recovery issue.
1996	NIPPA Hardwicke, South Carolina Strategy, fact development - civil action
1997	Glenn, Murphy, Gray & Step, Columbia, South Carolina (A.O. Smith Tort Action) Strategy, fact development, mediation
1998	Foley, Hoag & Eliot LCP, Columbia, South Carolina (Laidlaw vs. SC DHEC) Fact development affidavit and testimony at Administrative Law Judge/Hearing
1999	Wegman, Hessler, Vanderburg & O'Toole, Cleveland, Ohio (MTD) Fact development and deposition related to cost recovery
2000	Squire Sanders & Dempsey, LLP, Columbus, Ohio (The Ninth Avenue Remedial Group et. al. v. Allis Chalmers, et. al.) Fact development, Expert Report and deposition related to cost recovery.
2000	Beveridge & Diamond PC, Baltimore, Maryland (United States v. Atlantic Richfield Company, et. al.) Fact development and Expert Opinion related to cost recovery.

PUBLICATIONS OVER LAST 10 YEARS:

- Transforming Environmental Permitting and Compliance Policies to Promote Pollution Prevention: Report and Recommendations of the Technology Innovation and Economics Committee. USEPA, EPA 100-R-93-004 April 1993. (contributor)
- Linking Science & Technology to Society's Environmental Goals (1996) National Academy Press, Washington, D.C. (contributor)
- Brownfields Redevelopment: Cleaning up the Urban Environment: March 7, 1996, an ABA Satellite Seminar, American Bar Association Section of Natural Resources, Energy and Environmental Law(Chicago) ABA, c 1996

- Brownfields Transactions: Making the Deals Work: March 27, 1997, an ABA Satellite Seminar. American Bar Association. Section of Natural Resources, Energy and Environmental Law Chicago) ABA, c 1997
- The Brownfields Redevelopment Workshop Series: 1997, An Air and Waste Management Workbook Series, AWMA, Pittsburgh 1997.
- Documents related to regulation development, statutory review, guidance, and policy interpretation. Published in RMT's newsletter, the Network.
- Presentation of papers at conferences and seminars dealing with regulations, enforcement, permits, and technology.